REEL #38

ZENKEVICH, M.M.

2/2 016 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0131161

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. OBJECTIVE INDICES OF SPECTRAL CARDIAC SOUNDS AND MURMURS IN THE FORM OF RELATIVE VALUES, AMPLITUDE, DURATION AND PHASE OF THE MAXIMAL AMPLITUDE, WERE ELABORATED. THIS TECHNIQUE ENABLE DETERMINATION OF NORMAL VALUES OF HEART SOUNDS IN 80 HEALTHY PERSONS. THE RELATIVE VALUES OF THESE INDICES IN 88 PATIENTS SUFFERING FROM CARDIAC DISEASES WERE STUDIED; THE RELATIVE DEVIATIONS IN THE SOUND SEMIOTICS IN MYOCARDIAL AND CARDIAC LESIONS WERE ESTABLISHED. THE SOUND ALTERNATION OF THE HEART AND VARIABILITY OF HEART SOUNDS AT HIGH FREQUENCY WERE ESTABLISHED. THIS TECHNIQUE IS RECOMMENDED FOR THE EXPRESS ANALYSIS IN MASS EXAMINATIONS OF PATIENTS AFFECTED WITH CARDIAC DISEASES. FACILITY: VOROZNZH MED. INST., VORONEZH, USSR.

UNCLASSIFIED

UDC: 621.371:621.391

USSR

ZENKEVICH, O. A., Editor

"Energy Characteristics of Space Radio Lines" (Energeticheskiye kharakteristiki kosmicheskikh radioliniy)

Moscow, 1972, izd-vo Sovetskoye, p 2

Translation:

Energy Characteristics of Space Radio Lines, edited by O. A. Zenevich, Moscow, Izd-vo "Sovetskoye radio," 1972.

Authors: Vimberg, G. P., Vinogradov, Yu. V., Fomin, A. F., et al.

Specific structural characteristics of space radio lines of the type used for artificial earth satellites and interplanetary space ships are considered. A method is given for computing the basic energy characteristics of space radio lines for various purposes (communications, commands, measurements, television, and telemetric) with an accuracy sufficient for the solution of applied engineering problems. Extensive statistical material based on the elements of space radio lines is given together with graphic material for easing the computations.

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USSR

ZENKEVICH, O. A., Izd-vo Sovetskoye radio, 1972, p 2

All of the textual and mathematical material in the book is derived from sources published in the open foreign press.

The book is aimed at a broad readership of specialists in the development of space radio lines, and may also be useful to students and aspirants for the VUZ schools for specialists.

The book contains 97 tables, 238 illustrations, and a bibliography of 144 titles.

Authors: Vimberg, G. P., Vinogradov, Ye. V., Zenkevich, O. A., Lesnickenko, V. A., Mitryayev, Ye. V., Patrikeyev, L. V., Titov Yu. M., and Fomin, A. F.

2/11

UDC: 621.371:621.391

USSR

ZENKEVICH, O. A., Editor

"Energy Characteristics of Space Radio Lines"

Moscow, 1972, Sovetskoye radio izd-vo, pp 434-436

Translation:

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USSR

ZENKEVICH, O. A; Izd-vo Sovetskoye radio, 1972, pp 434-436

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ZENKEVICH, O. A., Izd-vo Sovetskoye radio, 1972, pp 434-436

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ZENKEVICH, C. A., Izd-vo Sovetskoye radio, 1972, pp 434-436

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ZENKEVICH, O. A., Izd-vo Sovetskoye radio, 1972, pp 434-436

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ZENKEVICH, O. A., Izd-vo Sovetskoye, 1972, pp 434-436

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ZENKEVICH, O. A., Izd-vo Sovetskoye, 1972, pp 434-436

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ZENKEVICH, O. A., Izd-vo Sovetskoye Radio, 1972, pp 434-436

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ZENKEVICH, O. A., Izd-vo Sovetskoye Radio, 1972, pp 434-436

Gugo Pavlovich Vimberg, Yuriy Vasil'yevich Vinogradov, Oleg Aleksandrovich Zenkevich, Vladimir Aleksandrovich Lesnichenko, Yevgeniy Vasil'yevich Mitryayev, Leonid Vasil'yevich Patrikeyev, Yuriy Mikhaylovich Titov, Aleksey Fedorovich Fomin.

ENERGY CHARACTERISTICS OF SPACE RADIO LINES

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USSR

ZENKEVICH, P. R. (Institut teoreticheskoy i eksperimental'noy fiziki. Moskva. -- Institute of Theoretical and Experimental Physics. Moscow)

"On Quasi-Stochastic Instability Of Oscillations Of Particles In Annular Accelerators And Storage Devices"

Moscow, Pribory i Tekhnika Eksperimenta (Experimental Devices And Technology), No 1, Jan--Feb 1970, pp 25-29

Abstract: An increase of the amplitude of oscillations of particles under the influence of weak external disturbances can lead to considerable losses of particles in annular accelerators and particularly in annular storage devices. The magnitude of the loss was evaluated in a previous paper by the author with the aid of a stochastic model, according to which the phases of the increments of the complex amplitude of the oscillations at successive resonance intersections are assumed to be statistically independent. However, this assumption, correct in the case of the intersection of various resonances, has been shown by others to require a special consideration if the particles oscillate in the vicinity of an individual resonance. It is obvious, for example, that increases of complex

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USSR

ZENKEVICH, P. R., Pribory i Tekhnika Eksperimenta, No 1, Jan--Feb 1970, pp 25-29

amplitude phases with periodic oscillations of the frequency in the vicinity of an individual resonance are strongly correlated. This correlation can be disturbed by exterior noise factors: fluctuations of the characteristic parameters of the problem (oscillation frequency and complex amplitude of the induced forces) and the strictly stochastic processes of dissipation in gas. The present paper investigates the conditions for the origin and the properties of such stochastic -- or as is shown in the paper, more precisely speaking -- quasistochastic instability resulting from exterior noise factors. The author thanks I. L. Gol'din and D. G. Koshkarev for useful comments. 1 ill. 6 ref. Submitted 14 March 69.

2/2

CAROL

JPRS 60590

20 November 1973

(8)

UDC 533.95+537.312.62

DISCHARGE OF A SUPERCONDUCTING STORAGE DEVICE THROUGH AN INVERTER

UC00332

[Article by V. V. Andrianov, V. B. Zenkevich, O. V. Popkov, B. N. Sergeyenkov, A. G. Sukhorukov, V. V. Sychev, V. A. Tovma, and V. S. [illegible]: reported by academician V. A. Kirillin on 16 June 1970; Moscow, Doklady Akademii Nauk SSSR, Russian, Vol 196, No 2, 1971, submitted 9 June 1970, pp 320-323]

650.143 -55

1 - Superconductors

Superconductive inductive power storage devices are promising for use in a number of scientific and engineering fields as emergency sources of electric power, power sources for covering peak loads in power systems, and as high power electric pulse sources.

The amount of energy stored in this type of a device can be quite large. In particular, a storage device for covering peak loads of 10^{13} joules is discussed [1]. As compared to other possible methods, superconducting storage devices have a number of technical and economic advantages for storing relatively high energies. Frequently, a necessary condition for the efficient utilization of the storing device is the use of an inverter for transferring the energy stored in the magnetic field to the AC network. There is no information at present on any attempts for the practical realization of a process for transferring the energy from a superconducting storage device to an electric power system.

The inversion of energy stored in a superconducting solenoid can be accomplished at a constant average value of the inverted energy as well as at a constant average value of the voltage applied to the solenoid terminals equal to the average value of the counter electromotive force of the inverter.

In the latter case, the velocity of energy transfer is maximal for a given limiting value of the voltage. It should be noted in this connection that it is possible to use the inverter as an external load when transferring the energy from large superconducting magnetic systems for various purposes (power hydromagnetic generators, electric motors, bubble chambers, etc.) in emergency situations (for example, when the normal phase appears in the winding). As compared to load resistances usually used in such cases, semiconductor inverters are incomparably more compact, do not require high power cooling systems, etc.

[I - USSR - F]

ZENKEVICH, V.B.

UDC: [621.315.55:537.312.62]:001.4

USSR

SYCHEV, V. V., [redacted], AL'TOV, V. A., KULYSOV, V. A., Moscow

"The Controllable Low-Resistance Shunt Method of Studying the Current-Voltage Curves of Combined Superconductors"

Moscow, Izv. AN SSSR: Energetika i Transport, No 4, Jul/Aug 72, pp 88-96

Abstract: A method is described for determining the current-voltage characteristics of combined superconductors which can be used to study both short specimens (under isothermal conditions or when there is a temperature gradient lengthwise of the specimen), and specimens in the form of solenoids with open or tight windings. The proposed experimental procedure is simple and convenient, and can be used to study the state of thermal equilibrium of combined superconductors over the entire range of operating temperatures. The method has high sensitivity and gives the current-voltage curves of combined superconductors with negative resistance.

1/1

USSR UDC: [621.318.371:537.312.62]:001.4

SYCHEV, V. V., [redacted] AL'TOV, V. A., KULYSOV, N. A., Moscow

"The 'Double' Solenoid Method for Studying Dynamic Processes in a Superconducting Winding"

Moscow, Izv. AN SSSR: Energetika i Transport, No 4, Jul/Aug 72, pp 81-87

Abstract: A method is worked out for experimental investigation of processes of propagation of the normal zone in a superconducting winding. The proposed method can be used for precision determination of the principal characteristic currents in combination superconductors used in a winding. The experimental installation described completely eliminates interference from the power supply and control equipment. The procedure is relatively simple and can be recommended as a convenient tool for predicting the behavior of a combined conductor in large superconducting windings.

1/1

1/2 026 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--EFFECTIVE RESISTANCE OF AN IMPERFECT SUPERCONDUCTOR OF THE SECOND KIND IN AN OSCILLATING MAGNETIC FIELD -U-

AUTHOR-(05)-ANDRIANOV, V.V., ZENKEVICH, V.B., KURGUZOV, V.V., SYTCHEV, V.V., TERNOVSKIY, F.F.

Z

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL EKSPERIMENTAL'NOY I TEORETICHESKOY FIZIKI, 1970, VOL 58, NR 5, PP 1523-1531

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--SUPERCONDUCTOR, OSCILLATION, MAGNETIC FIELD EFFECT, DIRECT CURRENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/0006 STEP NO--UR/0056/70/058/005/1523/1531

CIRC ACCESSION NO--AP0127656

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2/2 026 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0127656

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT IS INVESTIGATED OF AN EXTERNAL OSCILLATING MAGNETIC FIELD ON THE DIRECT CURRENT FLOWING IN AN IMPERFECT SUPERCONDUCTOR OF THE SECOND KIND. IT IS FOUND THAT WHEN THE VARIABLE COMPONENT OF THE EXTERNAL FIELD AMPLITUDE EXCEEDS A CERTAIN THRESHOLD VALUE AN EFFECTIVE DIRECT CURRENT RESISTANCE ARISES. THE DEPENDENCE OF THIS QUANTITY ON OSCILLATING FIELD FREQUENCY, AMPLITUDE OF VARIABLE COMPONENT, MAGNITUDE OF CONSTANT COMPONENT AND VALUE OF DIRECT CURRENT FLOWING IN THE SUPERCONDUCTOR IS DETERMINED. THE DEPENDENCE OF THE THRESHOLD AMPLITUDE OF THE EXTERNAL FIELD ON CURRENT AND FIELD STRENGTH IS INVESTIGATED. A THEORY IS PROPOSED WHICH EXPLAINS THE EXPERIMENTAL RESULTS. FACILITY: INSTITUT VYSOKIKH TEMPERATUR, AKADEMII NAUK SSSR.

UNCLASSIFIED

1/2 019 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--TIME OF FLIGHT SPECTROMETER FOR MEASUREMENT OF SCATTERING NEUTRON CROSS SECTIONS -U-

AUTHOR-(02)-ZENKEVICH, V.S., MOSKALEV, S.S.

Z

COUNTRY OF INFO--USSR

SOURCE--AT. ENERG. (USSR); 28: 120-5 (FEB 1970).

DATE PUBLISHED-------70

SUBJECT AREAS--METHODS AND EQUIPMENT, PHYSICS

TOPIC TAGS--LITHIUM GLASS, NEUTRON SCATTERING, NEUTRON CROSS SECTION, NEUTRON DETECTOR

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/0753 STEP NO--UR/0089/70/028/000/0120/0125

CIRC ACCESSION NO--AP0131348

UNCLASSIFIED

2/2 019 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0131348

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A TIME OF FLIGHT SPECTROMETER FOR MEASURING NEUTRON SCATTERING CROSS SECTIONS IN A LINAC IS DESCRIBED. A SAMPLE IS POSITIONED NEAR THE NEUTRON SOURCE. LI-6 GLASS SCINTILATORS ARE USED AS NEUTRON DETECTORS. THE TIME RESOLUTION IS 22 NSEC-M FOR NEUTRON ENERGIES GREATER THAN OR EQUAL TO 500 EV.

UNCLASSIFIED

USSR 2 UDC 621.52:621.384.8

ZENKIN, V. I., SAVIN, O. R., SHKURDODA, V. F.

"Automatic Calibration of Mass Spectrometer Gas Analyzers"

Pribory i sistemy avtomatiki. Resp. mezhved. nauchno-tekhn. sb. (Devices and Systems of Automation. Republic Interdepartmental Collection), Vyp. 9, pp 125-130 (from RZh--Elektronika i yeye primeneniye, No 5, May 70, Abstract No 5A50)

Translation: A system was developed for automatic calibration of mass spectrometer gas analyzers which assures delivery of the results of analysis in percents by volume of the contents of the components being checked. On the basis of this system the MX-12 (checking) and MX-1212 (regulating) mass spectrometer gas analyzers were constructed, which successfully passed industrial tests and were accepted for series production. G. B.

1/1

1/2 015 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--HYDROGENATION OF M AND P-PHENYLENEDIAMINES ON RUTHENIUM DIOXIDE -U-

AUTHOR-(05)-GENKINA, YE.V., MALIMONOVA, A.B., MEDVEDEVA, I.M., ZENKINA, T.G., RYZHENKO, L.M.
COUNTRY OF INFO--USSR

SOURCE--ZH. VSES. KHIM. OBSHCHEST. 1970, 15(1) 118

Z

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CATALYTIC HYDROGENATION, GAS CHROMATOGRAPHY, ANILINE, CYCLOHEXANE, PHENYLENE, DIAMINE, RUTHENIUM COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1992/1412 STEP NO--UR/0063/70/015/001/0118/0118

CIRC ACCESSION NO--AP0112406
UNCLASSIFIED

2/2 015 UNCLASSIFIED PROCESSING DATE--02OCT70
CIRC ACCESSION NO--AP0112406
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. HYDROGENATION OF M AND P-C SUB6 H SUB4 (NH SUB2) SUB2 AT 100-800DEGREES-180-200 IN MEOH OR DIOXANE OVER RUO SUB2 AND EXAMN. OF THE PRODUCT BY GAS CHROMATOG. WAS REPORTED. ALONG WITH 1,3 AND 1,4,DIAMINOCYCLOHEXANE, THE REACTION GAVE PHNH SUB2 AND CYCLOHEXYLAMINE, WHICH PROVED THAT A PARTIAL DEAMINATION TOOK PLACE EVEN AT 100-200DEGREES. THE YIELD OF PHNH SUB2 WAS 10-15PERCENT AND THAT OF CYCLOHEXYLAMINE 1-2PERCENT.

UNCLASSIFIED

1/2 007 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--TRIVIAL NOMENCLATURE OF M,METHANE SERIES COMPOUNDS -U-

AUTHOR-(02)-BARDYSHEV, I.I., ZENKO, R.I.

2

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK BELORUSS. SSR 1970, 14(5), 432-5

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--DIENE, TERPENE, UNSATURATED HYDROCARBON

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3007/1194 STEP NO--UR/0250/70/014/005/0432/0435

CIRC ACCESSION NO--AT0136605

UNCLASSIFIED

2/2 007 UNCLASSIFIED PROCESSING DATE--27NOV70
CIRC ACCESSION NO--AT0136605

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TRIVIAL NOMENCLATURE SIMILAR TO THAT FOR THE P,MENTHANE SEREIS WAS WORKED OUT FOR THE M,MENTHANE SERIES WHERE ANALOGS EXISTED AND WHERE TRIVIAL NAMES HAD ALREADY BEEN ACCEPTED FOR THE DIENIC HYDROCARBONS SUCH AS NEOSYLVESTRENE, NEOISOSYLVESTRENE, ALPHA,NEOSYLVESTERPINENE, AND ALPHS,NEOSYLVEPHELLANDRENE. THE CORRESPONDING ALCS., KETONES, AND ALDEHYDES WERE NAMES FROM THE APRENT HYDROCARBON, E.G., AS SYLVESTRENOLS, SYLVESTRENONES, AND SYLVESTRENALS. RETENSION OF GENEVA NOMENCLATURE WAS RECOMMENDED FOR THE LITTLE STUDIED DERIVS., E.G., THOSE OF UNSATD. HYDROCARBONS HAVING ONE DOUBLE BOND.
FACILITY: INST. FIZ.-ORG. KHIM., MINSK, USSR.

UNCLASSIFIED

Ref. Code: UR 0481

Acc. Nr AP0040338

Z

PRIMARY SOURCE: Eksperimental'naya Khirurgiya i Anesteziologiya,
1970, Nr 1 , pp 91-94

MORPHOLOGICAL CHANGES IN THE STOMACH UNDER LOCAL INTRAGASTRIC HYPOTHERMIA IN THE DOG

S. G. Chuchumashev, V. P. Zenkov

In experiments on 30 dogs morphological studies of the stomach were carried out at different periods (from o hours to 90 days) after local intragastric hypothermia. The temperature of the cooling fluid was —6° C and —13°. Changes in stomach structure were detected histologically and histochemically. This was manifested by acute vasomotor disorders with stases, oedena of the mucosa and of the submucosal layer, appearance of destructive changes in the covering epithelium and in the gastric glands. Changes depended on the temperature and the time. More marked morphological changes were seen during the first 24 hours after hypothermia with the cooling fluid at —13°. Histostructure returned to normal in 1—4 weeks.

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REEL/FRAME
19741773

02 kc

ZENKOV, V. V.

JPRS 53137

14 May 1971

ACTINOMETRIC INSTRUMENTS ABOARD SOVIET METEOROLOGICAL SATELLITES

[Article by V. A. Beskin, V. V. Zenkov, D. S. Orman, V. P. Timonin, E. V. Khlopov, V. A. Khrustalev and G. I. Shuster, Moscow, Trudy Tsentral'noy Aerologicheskoy Observatorii, Fizika Svobodnoy Atmosfery, Russian, No 100, 1970, submitted 30 June 1969, pp 125-135]

It is known [1] that the equipment of Soviet meteorological satellites consists of two types of actinometric instruments.

The first type is a narrow-angle scanning instrument (lucimeter) with an instantaneous field of view of 4° x 5° with an operating viewing angle of ±66° from the vertical to the plane perpendicular to the flight trajectory of the satellite.

The second type is a wide-angle instrument (a flux density meter) with a viewing angle of 136-140°.

The instruments are duplicated in order to improve the operating reliability.

The energy brightnesses of the narrow-angle instrument are measured in three spectral ranges (0.3-3, 8-12 and 3-30 microns) over two independent channels: the 8-12 and 3-30 micron ranges are combined in one measuring channel, and they are selected by changing the corresponding optical filters.

In the 0.3-3 micron channel, the instrument operates as a single-beam system, and in the 3-30 and 8-12 micron channel, as a dual-beam system. The Earth-space modulation method is used in the last channel: the measurable radiation is compared with the radiation of outer space.

The density of the radiant flux from the Earth into outer space is measured by the wide-angle nonscanning instrument in two spectral ranges: 0.3-3 and 3-30 microns.

The modulation level for the 3-30 micron channel is determined by the modulator temperature, which in the steady-state mode is approximately equal

USSR

UDC 547.254 + 547.27 + 547.279

LAPKIN, I. I., BOGOSLOVSKIY, N. V., and ZENKOVA, N. I.

"Selenoorganic Compounds. III. A new Synthetic Method for Selenides"

Leningrad, Zhurnal Obshchey Khimii, Vol 42 (104), No 9, Sep 72, pp 1972-1974

Abstract: In a continuation of their studies on the synthesis of selenides based on the reaction of formate esters with an equimolar mixture of bromomagnesium carbinoxides and selenophenoxides, the limits of the reaction were determined. The following compounds can be used in the synthesis: $RC_6H_4CH_2OMgBr$, $RC_6H_4C(CH_3)HOMgBr$, $RC_6H_4C(CH_3)_2OMgBr$, giving high yields of corresponding bromides when reacted with ethyl formate. When primary or secondary radicals are attached to the α-carbon atom (in respect to the phenyl ring), the reaction cannot take place, since such compounds have a tendency to dehydrate, forming styrenes which are easily polymerized.

1/1

1/2 009 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--CHEMICAL SCHEME AND STRUCTURE OF THE MATHEMATICAL DESCRIPTION OF HYDROCRACKING -U-

AUTHOR-(05)-ZHOROV, YU.M., PANCHENKOV, G.M., TATARINTSEVA, G.M., KUZMIN, S.T., ZENKOVSKIY, S.M.

Z

COUNTRY OF INFO--USSR

SOURCE--NEFTEPERERAB. NEFTEKHIM. (MOSCOW) 1970, (5), 1-3

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--MATHEMATIC EXPRESSION, CATALYTIC CRACKING, PETROLEUM HYDROCRACKING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/1951 STEP NO--UR/0318/70/000/005/0001/0003

CIRC ACCESSION NO--AP0133795

UNCLASSIFIED

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CIRC ACCESSION NO--AP0133795

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A SCHEME BASED ON THE MAIN CHEM. CONVERSIONS OF THE RAW MATERIAL WAS DEVELOPED FOR THE 1 STAGE CRACKING OF VACUUM DISTILLATES, BUT IS WAS CONSIDERED A 2, OR 3 STAGE PROCESS, IF IT TOOK PLACE UNDER MILD OR SEVERE CONDITIONS, RESP. THE WT. COEFFS. OF THE SCHEME WERE CONST. FOR CONST. QUALITY OF THE STOCK. A MATH. DESCRIPTION WAS DEVELOPED FOR AN ADIABATIC REACTOR WITH FIXED CATALYST BED.

UNCLASSIFIED

1/2 010 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--RING CURRENTS AND NUCLEAR MAGNETIC RESONANCE IN PORPHYRINS -U-

AUTHOR-(04)-MAMAYEV, V.M., PONOMAREV, G.V., ZENIN, S.V., YEVSTIGNEYEVA, R.P.
COUNTRY OF INFO--USSR

Z

SOURCE--TEOR. EKSP. KHIM. 1970, [illegible](1), 40-6

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--NUCLEAR MAGNETIC RESONANCE, PORPHYRIN, PROTON, PYRROLES

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/2133 STEP NO--UR/0379/70/006/001/0040/0046

CIRC ACCESSION NO--AP0125717
UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--04DEC70

2/2 010

CIRC ACCESSION NO--AP0125717

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. METHOD OF R. MC WEENY FOR CALCN. OF PI ELECTRON CURRENT IN AROMATIC MOLECULES WAS MODIFIED FOR PORPHYRINS. DISTRIBUTION OF RING CURRENTS OF PI ELECTRONS AND THEIR CONTRIBUTIONS TO CHEM. SHIFTS OF NH, BETA H, MESO PROTONS, AND ME PROTONS OF PORPHYRINS IWTH CO SUB2 ET AND ME GROUPS IN THE FORM OF DICATIONS AND FREE BASES WAS CALCD. ON FORMING THE DICATION, THE PI ELECTRON CURRENT ALONG THE INTERNAL CONJUGATION RING INVOLVING NITROGEN ATOMS IS LOWERED, THE OVERALL RING CURRENT BEING HIGHER BY 10PERCENT. INTRODUCING AN ELECTRON ACCEPTOR SUBSTITUTENT IN THE BETA POSITION ENHANCES PI ELECTRON CURRENT THROUGH C N BONDS OF THE CORRESP. PYRROLE RING AND SIMULTANEOUSLY LOWERS THE OVERALL PI ELECTRON CURRENT. FACILITY: MOSK. INST. TONKOI KHIM. TEKHNOL. IM. LOMONOSOVA, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 621.357.035:621.79.027(088.8)

KONDAT'YEV, A. B., MASLENNIKOV, P. N., KONDRAT'YEV, V. P., ZEMSKOV, O. A., DANILOV, O. M., and ZENNIN, V. V.

②

"Apparatus for the Electrochemical Treatment of Small Diameter Holes"

USSR Author's Certificate No 284879, Filed 25 Jun 68, Published 6 Mar 72 (from Referativnyy Zhurnal -- Khimiya, No 21(II), 1972, Abstract No 21L288P by A. D. Davydov)

Translation: The new patented apparatus contains a tank for electrolyte, the power source, and a cathode in the shape of a thin rod. It is suitable for the treatment of small diameter holes in items made of low-magnetic alloys such as VK6, VK8, and VK15. It differs from other similar apparatus by the presence of a magnetic lens (in a shape of the shielded coil), with the cathode-instrument placed within its field. The cathode is made of paramagnetic material, in order to prevent the concentration of magnetic power lines in it.

1/1

USSR

UDC: 621.438.253.5:531.781.2

Zenukov, A. G., Sal'nikov, G. M., Davletbayev, A. M.

"Peculiarities of the Thermal and Stressed State of Cooled Envelope-type Blades"

Kazan', Izvestiya Vysshikh Uchebynkh Zavedeniy, Aviatsionnaya Tekhnika, No 1, 1972, pp 72-77.

Abstract: This work studies the influence of the primary dimensions on the temperature state of elements of a turbine blade with a large number of channels for cooling, located near the gas surface. The influence of shell thickness and rib width on the temperature state of elements of the blade is studied and the variations in strength reserve of the ribs are analyzed. Recommendations are given for selection of shell thickness and rib width in the design of envelope-type blades.

1/1

Acc. Nr. AP0053760 Abstracting Service: CHEMICAL ABST. 6-70 Ref. Code UR0080

112011x **Degradation of copolymers of vinylene glycol with vinyl alcohol and ethylene under the influence of alkali.** Kli-
mova, O. M.; Khabikova, L. E.; Duvakina, N. I.; Zentsova, G. A.
(Leningrad. Tekhnol. Inst. im. Lensoveta, Leningrad, USSR).
Zh. Prikl. Khim. (Leningrad) 1970, 43(1), 217-20 (Russ). Poly-
(vinyl alc.) (I) (contg. 1.3 mole % α-glycol units), vinyl alc.-vinyl-
ene glycol (II) copolymers (III) (contg. 8.9 and 15 mole % α-gly-
col units), and II-ethylene copolymers (contg. 6 and 1[illegible] mole %
II) were subjected to oxidative thermal degradation at 70 ± 1°
for 3 hr. Increased content of α-glycol units in III gave higher oxi-
dative degradation resistance and resistance to a 40% aq. KOH
soln. Introduction of glycol units into I increased the stability
presumably by the formation of intramol. H bonds, which inhib-
ited dehydration.
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USSR

ZENYUK, Yu., APN Correspondent

"Sturgeon 'Sends' Radiosignals"

Ashkhabad, Turkmenskaya Iskra, 16 Apr 70, p 4

Translation: The intensive construction of irrigation canals in the lower course of the Kuban' in recent years has threatened the normal spawning of the sevruga and other types of sturgeon. Ichthyologists fitted fish with transistorized transmitters, after which the fish could "communicate" with scientists.

This interesting experiment was conducted in the upper and lower levels of the Fedorovskiy hydraulic installation, whose dams span the Kuban' just at the time the sturgeon are coming from the Sea of Azov to spawn in the upper part of the river. Scientists fastened miniature ultrasonic radio receivers weighing 50 g on the upper fins of fish weighing 4--9 kg, which had been trapped in the lower course of the river. Each such transmitter can send signals for eight days a distance of one-half a kilometer. Three sets of hydroacoustical receiving apparatus will be placed on two vessels and on the shore. Received signals are charted by operators on a map of the Kuban River bottom, and formerly unknown underwater routes of fish are discovered.

1/1

ZENZINOV O.V.

Gyroscopes

③ DIANE

BIBLIOGRAPHIC DATA SHEET

1. Report No. JPRS 59498

2.

3. [illegible]

4. Title and Subtitle

PERFORMANCES OF VARIOUS TYPES OF GYROSCOPES DISCUSSED

All=Gyroscopes

5. Report Date

12 July 1973

6.

7. Author(s)

O.V. Zenzinov, B.B. Samotokin, Ye. M. Sharapov, et al.

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13. Type of Report & Period Covered

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15. Supplementary Notes

IZVESTIYA VUZ, PRIBOROSTROYENIYE, 1973, Leningrad

16. Abstracts

The report contains four articles on free gyroscopes, gyroscopic orbit errors, gyrocompass reading and apparatus for measuring friction moments in radial thrust ball bearings and gas dynamic bearings of gyro motors.

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USSR

UDC 531.383

~~ZENZINOV, O. V.~~ and NOVIKOV, L. Z., Moscow Aviation Institute imeni S. Ordzhonikidze

"The Position of the Axis of Rotation in the Spherical Rotor of a Free Gyroscope"

Leningrad, Priborostroyeniye, Vol 16, No 4, 1973, pp 67-70

Abstract: The quasi-steady rotation of the spherical rotor of a free gyroscope is discussed with reference to the presence of disbalance in a contactless mounting of the electrostatic type. Approximate relationships are found, which characterize the position of the axis of rotation within the rotor body as a function of the angular velocity of rotation and the parameters of the rotor and the mounting. The conclusion is drawn that when the relation between the translational and the angular motion of a spherical rotor is taken into account, the relationship between the position of the stationary axis of rotation and the parameters of the system can be ascertained. 1 figure. 1 reference.

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(2)

SO: JPRS 59279
14 June 73

EPITAXIAL LAYERS OF SILICON OBTAINED BY PYROLYSIS OF HYDRIDES

Eng. - Semiconductor Materials

[Article by T. A. Zeveke, V. A. Tolomasov; Novosibirsk, Protsessy Rosta i Struktura Monokristallicheskikh Sloyev Poluprovodnikov -- Trudy Simpoziuma, Russian, Part 2, 1969, pp 122-128]

The epitaxial deposition of thin layers of semiconducting materials, in particular, silicon, from the gas phase is attracting the attention of many researchers. Halide [1, 2] or hydrogen [3-5] compounds of silicon are used as the initial product.

The method of pyrolysis of the hydrides has a number of advantages over the method of reduction of the chlorides. First, the technological process of obtaining the silicon hydrides insures a higher degree of their purity. Secondly, as a result of the high vapor pressure at room temperature, it is possible to store the hydrides in steel cylinders and introduce them into the reaction volume with direct control using flow meters. Thirdly, a biproduct during thermal decomposition of the hydrides is hydrogen which does not change the conditions of the growth process. Fourthly, the introduction of an alloying agent by means of phosphorus, boron or arsenic hydrides gives clearer p-n junctions than in the chloride method as a result of low adsorption of the hydrides by the walls of the apparatus. Fifth, the diffusion of the admixtures from the substrates to film is less in the hydride method than in the chloride method as a result of the lower growth temperature.

However, the autocatalytic nature of the pyrolysis action of the hydrides imposes requirements on the surface quality of the substrate which are more rigid by comparison with crystallization from chlorides.

The papers on obtaining thin autoepitaxial layers of silicon by the pyrolysis of monosilane have appeared since 1963 [4]. The study of the kinetics of the process was the topic of reference [3], and obtaining semiconductor devices and investigating their properties was the topic of the paper [5]. Obtaining epitaxial layers with satisfactory characteristics has become possible only after the single seed crystals began to be processed by gaseous hydrogen chloride before the beginning of growth. With the development of solid state electronics one of the most important goals has become the development of a method of obtaining heteroepitaxial layers. The use of insulating materials as the single seed crystal should insure the possibility of

ZEVEKE, T. A.

Miscellaneous

USSR

UDC 669.88.536.423.1

ZEYGARNIK, YU. A., Candidate of Technical Sciences, and LITVINOV, V. D., Engineer, Institute of High Temperatures of the Academy of Sciences USSR

"Some Problems of Boiling Alkali Metals"

Moscow, Teploenergetika, No 2, Feb 73, pp 27-33

Abstract: The prospects for the construction of atomic power plants with fast neutron reactors using liquid sodium as the heat carrier and also the development of space power installations with machine transformation of energy, liquid metal MHD installations, and heat pipes have evoked great interest in the hydrodynamics and heat exchange in two-phase streams of alkali metals. Areas studied are: boiling-p, heat transfer in the case of developed boiling, stability problems in the boiling process, two-phase flow conditions, depression on the heating surface, "dynamic" boiling, etc. Experiments on heat transfer are discussed which were carried out at the Power Engineering Institute imeni G. M. Krzhizhanovskiy, the Central Scientific Research Planning and Design Boiler and Turbine Institute imeni I. I. Polzunov (heat transfer in the transition zone where a drying of the surface layer takes place), the Heat Transfer and Fluid Mechanics Institute, Standford, et al. Experimental heat transfer data for the boiling potassium in tubes are given. Eleven figures, six formulas, twenty-four bibliographic references.

1/2 006

UNCLASSIFIED

PROCESSING DATE--18SEP70

TITLE--CONDITIONS FOR GERMINATION OF UREDOSPORES OF THE AGENT OF CORN RUST AND INFECTION WITH IT -U-

AUTHOR-(02)-ZEREKIDZE, R.I., SIDENKO, I.YE.

COUNTRY OF INFO--USSR

SOURCE--LENINGRAD, MIKOLOGIYA I FITOPATOLOGIYA, VOL 4, NO 1, 1970, PP 28-31

DATE PUBLISHED--------70

SUBJECT AREAS--AGRICULTURE

TOPIC TAGS--CEREAL CROP, PLANT PATHOGEN, SPORE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/0697

STEP NO--UR/9063/70/004/001/0028/0031

CIRC ACCESSION NO--AP0108903

UNCLASSIFIED

2/2 006 UNCLASSIFIED

CIRC ACCESSION NO--AP0108903 PROCESSING DATE--18SEP70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. OTUDY OF PUCCINIA SORGHI, THE AGENT OF CORN RUST SHOWED THAT THE OPTIMUM TEMPERATURE FOR GERMINATION OF CORN RUST UREDOSPORES IS 16-23DEGREES C, THE MINIMUM 3DEGREES C AND THE MAXIMUM 31DEGREES C. SPROUTS GROW FASTEST AT TEMPERATURES BETWEEN 19DEGREES AND 27DEGREES C. GERMINATION IN DARKNESS IS VERY INEFFECTIVE. CORN RUST COULD BE DETECTED ON PLANTS AFTER 4 HRS OF EXPOSURE AND THE HIGHEST DEGREE OF INFECTION OCCURRED AFTER 12 HRS OF EXPOSURE. THE INCUBATION PERIOD IN THE UREDOSPORE STAGE DEPENDS ON THE TEMPERATURE, DURATION OF INFECTION AND DEVELOPMENT OF THE DISEASE.

UNCLASSIFIED

USSR 2 UDC 582 285:632.4

ZEREKIDZE, R. I., and SIDENKO, I. Ye., Georgian Experimental Selection Station, ~~All-Union~~ Scientific Research Corn Institute, Tbilisi

"Conditions for Germination of Uredospores of the Agent of Corn Rust and Infection with It"

Leningrad, Mikologiya i Fitopatologiya, Vol 4, No 1, 1970, pp 28-31

Abstract: Study of Puccinia sorghi, the agent of corn rust showed that the optimum temperature for germination of corn rust uredospores is 16-23°C, the minimum 3°C and the maximum 31°C. Sprouts grow fastest at temperatures between 19° and 27°C. Germination in darkness is very ineffective. Corn rust could be detected on plants after 4 hrs of exposure and the highest degree of infection occurred after 12 hrs of exposure. The incubation period in the uredospore stage depends on the temperature, duration of infection and development of the disease.

1/1

ZERENIN, A. G.

CHARACTERISTICS OF THE METHOD FOR REGISTERING THE INDICES OF PHYSIOLOGIC FUNCTIONS ON THE 'SOYUZ-9' SPACESHIP

/Article by V. A. Talavrinov, A. G. Zerenin, I. V. Sokolov and V. F. Turchaninova; Moscow, Aktual'nyye Voprosy Kosmicheskoy Biologii i Meditsiny (Current Problems in Space Biology and Medicine), Russian, 1971, pp 265-267/

The great duration of flight by the "Soyuz-9" spaceship made it particularly important to prevent changes of the skin under the ECG electrodes.

Physiologic information aboard the "Soyuz-9" spaceship was registered using the same medical monitoring apparatus as during previous flights of the "Soyuz" ships, described earlier (Yu. G. Nefedov, L. I. Kakurin, et al., 1970), but a number of improvements were introduced into the system of physiologic sensors and the method for its use due to the considerable lengthening of flight duration.

During the flight we registered the electrocardiogram (ECG) in the "D5" lead, seismocardiogram (SCG), pneumogram (PG) and pulse rate of each of the crew members. All the physiologic sensors and electrodes were attached to the bodies of the cosmonauts by elastic fabric straps.

The most important of the improvements in the method for using the physiologic sensors were:

1) the cosmonauts themselves put on and took off the system of physiologic sensors; 2) every day, in cases of continuous wearing of the ECG electrodes, they were moved to other parts of the skin in such a way that on each of the skin sectors designated for this purpose the electrode was present for one day and the skin was free of it for three days. The cosmonaut himself processes the skin with a degreasing fluid, applies the current-

JPRS 56,499
14 JULY 72

Instruments and Equipment

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USSR

ZERNOV, A.

"The Heart's Small Helper"

Yerevan, Kommunist, 14 Feb 70, p 4

Abstract: "Kardiokompleks-1" is a combination of a cardiac pacemaker, defibrillator, and cardiac monitor, created in Leningrad by engineers Aleksandr Vasil'yev and Irina Ushakova and technician Rotefan Kononov, under the guidance of Al'fred Baranovskiy and Il'ya Meyzerov. This complex of instruments can be used for diagnosis and prolonged monitoring of the cardiac activity of seriously ill persons, and is an alarm which signals any deviation in the heart's rhythm. Twenty-five sets of the individual cardiac pacer, "EKSI-3M," which was the most difficult unit to develop, have been shipped to the Institute of Surgery imeni A. V. Vishnevskiy. The instruments used previously were too heavy (up to 150 grams) and caused an inflamation within two to two and a half years, necessitating an operation. The "EKSI-3M" weighs up to 20 grams. The part within the patient is a miniature receiver, shaped like a small ring, from which two spiral-shaped platinum-irridium wires covered with silicon rubber extend to the heart. The spiral shape of the wires helps prevent their being broken off by the heart's activity; in case they do break, they can be easily repaired by spot welding.

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USSR

ZERNOV, A., Kommunist, 14 Feb 70, p 4

The accompanying transmitter is carried in the patient's picket, where it can be easily adjusted. Its sliding contacts make it possible for the patient to periodically replace the transmitter's storage battery without interrupting the process of electronic stimulation of the heart.

2/2

USSR

UDC: 621.643.002.2 + 411.4

ZERNOV, A. V., ZAV'YALOV, V. E., INDYUKOV, A. F., IVANTSOV, V. YA., Ural NITI, Chelyabinsk; and SHCHEPKIN, E. V., MITROSHIN, S. S., Nefteprovodmontazh Trust, Ufa.

"Possibility of Automatic Double Welds of the Elbow Joints in Large Diameter Pipelines"

Moscow, Stroitel'stvo Truboprovodov, No 8, Aug 71, pp 15-17

Abstract: The Ural Pipe Industry Research Institute developed a method for producing automatic double-V welds under flux with an overhanging welding head in plates of 6-12 mm thickness with 2-2.5 mm gap.

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USSR

ZERNOV, A. V., et al., Stroitel'stvo Truboprovodov, No 8, Aug 71, pp 15-17

With this method the welding arc is stabilized by a magnetic field created by a solenoid concentric with the electrode. The solenoid winding is in series with the welding circuit. The magnetic field is controlled by varying the distance of the solenoid from the weld.

This method makes it possible to make the initial root weld either from inside or from outside in the elbow joint of a pipe.

Analysis of weld sections showed that the quality of the welds is adequate. The subject solenoids can be installed on existing welding heads. This will result in increased productivity and quality.

1/2

USSR UDC: 621.372.8(02)

GOL'DSHTEYN, L. D., ZERNOV, N. V.

"Electromagnetic Fields and Waves. Second Revised and Enlarged Edition"

Elektromagnitnyye polya i volny. Izd. 2-ye, pererabot. i dop. (cf. English above), Moscow, "Sov. radio", 1971, 662 pp, ill. 2 r. 25 k. (from RZh--Radiotekhnika, No 6, Jun 71, Abstract No 6B132 K)

Translation: The book presents the fundamentals of electromagnetic field theory. Principal attention is devoted to rapidly alternating fields and to analysis of the properties of radio elements whose theory is based on equations of electrodynamics (for instance waveguides, cavity resonators, etc.). Consideration is also given to the problems of interaction between an electromagnetic field and matter, which make up the theoretical basis of quantum electronics.

1/1

1/2 034 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--HEAT AND MASS TRANSFER DURING THE CONDENSATION OF PURE STEAM AND
STEAM CONTAINING ADDED AIR ON A TUBE BUNDLE INSIDE FLOW -U-
AUTHOR-(02)-FUKS, S.N., ZERNOVA, E.P.

Z

COUNTRY OF INFO--USSR

SOURCE--TEPLOENERGETIKA 1970, 17(3), 59-63

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--HEAT TRANSFER, MASS TRANSFER, VAPOR CONDENSATION, HEAT
EXCHANGER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1989/0936 STEP NO--UR/0096/70/017/003/0059/0063

CIRC ACCESSION NO--AP0107465
UNCLASSIFIED

2/2 034 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0107465

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A HEAT EXCHANGER, A BUNDLE OF 56-19 MM OUTSIDE DIAM. BRASS TUBES, WAS USED ALTERNATELY IN DOWNFLOW (A) AND CROSSFLOW (B) STEAM CONDENSATION STUDIES. A HIGH PURITY STEAM, CONTG. 0.0005 KG AIR-KG STEAM, AND STEAM WITH SMALLER THAN OR EQUAL TO 50PERCENT AIR WERE USED IN HEAT AND MASS TRANSFER STUDIES AT REYNOLDS NOX. 332-5000 AND TEMP. DRIVING FORCES OF 3.7-19.2DEGREES. MASS TRANSFER RATES WERE 40 AND 55PERCENT HIGHER ON THE TUBE ROW 1 THAN ON TUBE ROWS 2 AND 3, RESP.; THE MASS TRANSFER WAS THE SAME IN BOTH MODES OF STEAM FLOW. HEAT TRANSFER IN A AND B MODES OF FLOW WAS THE SAME; THE COEFF. DECREASED SHARPLY AS THE AIR CONTENT OF THE STEAM INCREASED. THE RESULTS PROVED THAT HEAT AND MASS TRANSFER EQUATIONS DEVELOPED FOR CONDENSING STEAM CONTG. DIFFERENT AMTS. OF INERT GASES MAY BE USED IN THE DESIGN OF HEAT EXCHANGERS USING ANY MODE OF STEAM FLOW. FACILITY: VSES. TEPOLTEKH. INST., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 619:614.9-084.47

SHILOV, A. A., OSTASHEV, S. N., NIKONOVA, T. G., Candidates of Veterinary Sciences, NIKONOVA, T. N., and ZERNYKH, Z. A., Veterinarians Kirov Agricultural Institute

"A New Technique for Injecting Biologicals"

Moscow, Veterinariya, No 10, 1971, pp 67-69

Abstract: Injection of many animals with biologicals is a costly and time-consuming process because the site has to be carefully treated (the fur shaved and the skin rubbed with a disinfectant or alcohol) to avoid infection. A new injection technique is proposed (for which the authors received a Soviet patent) involving the treatment of boiled needles with maslotinol. A given preparation can be injected subcutaneously or intramuscularly without first shaving the fur. Infection is prevented by mechanical isolation of the needle from the microbes present on the skin and not by chemical action against them. Maslotinol is a sterile vapor mineral oil with 0.2% thymol added as an antiseptic. When used in the amount recommended, maslotinol does not have any bactericidal effect on, for example, vaccine. However, it cannot be used in taking blood from animals.

1/1

1/2 010 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--A NEW SPECIES OF THE GENUS SYSTOLE WALKER, HYMENOPTERA,
EURYTOMIDAE, FROM THE SOUTH OF THE USSR -U-
AUTHOR--ZEROVA, M.D.

COUNTRY OF INFO--USSR
Z

SOURCE--VESTNIK ZOOLOGII, 1970, NR 3, PP 77-79

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--INSECTA, ANATOMY, GEOGRAPHIC LOCATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3001/0354 STEP NO--UR/0575/70/000/003/0077/0079

CIRC ACCESSION NO--AP0126110
UNCLASSIFIED

2/2 010

UNCLASSIFIED

CIRC ACCESSION NO--AP0126110 PROCESSING DATE--20NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE NEW SPECIES SYSTOLE CUSPIDATA SP. N. OF THE SYSTOLE WALK GENUS BRED FROM THE SEEDS OF SALVIA SCLAREA L. IS DESCRIBED BY MANY FEMALES AND 4 MALES FROM THE BULGARIA, CRIMEA AND MIDDLE ASIA. THE NEW SPECIES DIFFERS FROM SYSTOLE SALVIAE ZER. AND S. NIKOLSKAYAE ZER., DEVELOPED IN THE SEEDS OF OTHER SALVIA SPECIES, IN THICKER AND LONGER PUBESCENCE OF HEAD AND THORAX, SHAPE OF CYLPEUS, IN MALES SHORTER SEGMENTS OF ANTENNAE, GENITALIA AND ESPECIALLY VERY SHORT PETICLE. FACILITY: INSTITUTE OF ZOOLOGY, ACADEMY OF SCIENCES, UKRAINIAN SSR.

2/2 034 UNCLASSIFIED PROCESSING DATE--16OCT70
CIRC ACCESSION NO--AT0101877
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. INVESTIGATIONS WERE CONDUCTED ON
THE RADIOACITIVTY OF PLANKTON IN THE PACIFIC OCEAN IN THE REGION OF THE
TUAMOTU ARCHIPELAGO NORTH OF THE FRENCH ATOMIC PROVING GROUND ON MURUROA
ATOLL. METHODS OF COLLECTING PLANKTON SAMPLES ARE DESCRIBED:
ZOOPLANKTON CONSISTED CHIEFLY OF COPEPODS, SIPHONOPHORES, AND
EUPHAUSIDS. THE RADIOACTIVITY OF PLANKTON AT VARIOUS DISTANCES FROM THE
MURUROA ATOLL WAS MEASURED AND RESULTS ARE TABULATED FOR PRIME141 CE,
PRIME144 CE, PRIME103 RU, PRIME95 NB, AND PRIME95 ZR. THE GREATER THE
DISTANCE FROM THE ATOLL, THE SMALLER WAS THE ACTIVITY OF THE SAMPLES.
ANOMALIES IN A CRUSTACEAN, PLEUROMAMMA PISEKI, WERE OBSERVED; THE
ANOMALY OCCURRED IN ALL SPECIMENS NEAR THE ATOLL, BUT THERE WAS A
DECREASE IN INCIDENCE OF ANOMALIES WITH DISTANCE FROM THE ATOLL.
FACILITY: GOSUDARSTVENNYI KOMITET PO ISPOL'ZOVANIYU ATOMNOI ENERGII
SSSR, MOSCOW.

UNCLASSIFIED

USSR

UDC 621.371:551.510.535

ZEVAKINA, R. A., KISELEVA, M. V., PUSHKOVA, G. N., CHERNOVA, V. A.

"Effect of Ionospheric and Magnetic Disturbances on Shortwave Radio Communications"

V sb. Ionosfer. vozmushcheniya i ikh vliyaniye na radiosvyaz' (Ionospheric Disturbances and Their Effect on Radio Communications -- collection of works), Moscow. Nauka Press, 1971, pp 182-192 (from RZh-Radiotekhnika, No 1, 1972, Abstract No 1A335)

Translation: A study was made of the variation of the signal intensity as a function of disturbances of the F2 region and magnetic activity according to the data from recording the Moscow transmitter in Murmansk, Magadan and Irkutsk. The transmitter operated round the clock on directional antennas on 10 fixed frequencies from 1.5 to 24 megahertz. It was demonstrated that under quiet and disturbed conditions, the highest signal intensities are observed on frequencies 10-30 percent below the maximum usable frequency. During the disturbances, the signal intensity at all stations drops most significantly when the ionospheric and magnetic disturbances are observed simultaneously. In the case of a significant drop of f_0F2 accompanied by high magnetic activity, communications are interrupted. There are 4 illustrations and 1 table.

1/1

UNCLASSIFIED PROCESSING DATE--20NOV70

1/3 031

TITLE--CHANGE IN N,H, PROFILES DURING POSITIVE IONOSPHERIC DISTURBANCES DURING YEARS OF MAXIMUM AND MINIMUM SOLAR ACTIVITY -U-

AUTHOR-(04)-GONCHAROVA, YE.YE., ZEVAKINA, R.A., LAVROVA, YE.V., YUDOVICH, L.A.

Z

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, GEOMAGNETIZM I AERONOMIYA, VOL X, NO 3, 1970, PP 547-549

DATE PUBLISHED--------70

SUBJECT AREAS--ATMOSPHERIC SCIENCES, ASTRONOMY,ASTROPHYSICS

TOPIC TAGS--IONOSPHERIC DISTURBANCE, F LAYER, IONIZATION, AURORA, SOLAR ACTIVITY, GEOMAGNETIC STORM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED STEP NO--UR/0203/70/010/003/0547/0549

PROXY REEL/FRAME--3005/0526

CIRC ACCESSION NO--AP0132725

UNCLASSIFIED

PROCESSING DATE--20NOV70

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2/3 031

CIRC ACCESSION NO--AP0132725

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A STUDY WAS MADE OF CHANGE IN H(H) PROFILES IN THE LATITUDE RANGE 80DEGREESN-120EGREESS DURING TWO POSITIVE DISTURBANCES OBSERVED DURING THE PERIOD OF THE MAXIMUM OF SOLAR ACTIVITY 24-28 FEBRUARY 1958 AND DURING THE PERIOD OF THE MINIMUM 14-15 JANUARY 1964. BOTH DISTURBANCES WERE OBSERVED BEFORE SMALL MAGNETIC STORMS. SIMULTANEOUSLY WITH AN INCREASE IN IONIZATION IN THE F REGION THERE WAS INCREASED ABSORPTION IN THE AURORAL ZONES. THE STUDY WAS MADE USING HOURLY N(H) PROFILES FOR WASHINGTON, TALARA, HUANCAYO, IBADAN, AND SINGAPORE, SUPPLEMENTED BY DATA FOR ALERT, BAKER LAKE, CHURCHILL, SP-6, KHEYS ISLAND, DIKSON, MURMANSK, MOSCOW, AND ALMA ATA. COMPARISON OF N(H) PROFILES FOR DISTURBED AND QUIET PERIODS INDICATED THAT DURING POSITIVE DISTURBANCES THE ELECTRON CONCENTRATION INCREASES AT ALL ALTITUDES IN THE F REGION AND TO THE GREATEST DEGREE NEAR THE IONIZATION MAXIMUM. DURING THE NIGHTTIME AND MORNING HOURS THE GREATEST IONIZATION INCREASE OCCURS IN THE HIGH LATITUDES, WHEREAS DURING THE DAYTIME IT IS IN THE EQUATORIAL LATITUDES. N SUBMAX AND N FOR THE MOST PART HAVE SIMILAR CHANGES. AN INCREASE IN IONIZATION OCCURS IN THE FORM OF BURSTS WITH AN AVERAGE DURATION OF THREE OR FOUR HOURS. WITH A CONSIDERABLE INCREASE IN N SUBMAX AND N (UP TO 80PERCENT) THE GEOMETRIC PARAMETERS H SUBM, H SUB05 AND T CHANGE FOR THE MOST PART IN NORMAL LIMITS (PLUS OR MINUS 20PERCENT) AT ALL LATITUDES. THESE PARAMETERS EXHIBIT AN APPRECIABLE INCREASE ONLY WITH AN INCREASE IN MAGNETIC ACTIVITY.

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--20NOV70

3/3 031

CIRC ACCESSION NO--AP0132725

ABSTRACT/EXTRACT--AN INCREASE IN IONIZATION BELOW N SUBMAX DOES NOT OCCUR
AS A RESULT OF VERTICAL REDISTRIBUTION OF IONIZATION, BUT DUE TO
ADDITIONAL IONIZATION OF THE F REGION, PROPAGATING TO GREAT ALTITUDES.
THIS INCREASE IN IONIZATION CAN OCCUR OVER A GREAT PART OF THE EARTH OR
IN LIMITED REGIONS, PRIMARILY IN THE HIGH LATITUDES. ON QUIET DAYS THE
HIGHEST N VALUES WERE OBSERVED IN THE EQUATORIAL LATITUDES AND IN THE
AURORAL ZONE, WHEREAS DURING A POSITIVE DISTURBANCE THEY WERE OBSERVED
IN THE POLAR REGION. THE MAXIMUM INCREASE IN IONIZATION IN THE POLAR
REGION INDICATES A CORPUSCULAR NATURE OF POSITIVE DISTURBANCES. THIS
CORPUSCULAR RADIATION, LIKE THE PROTONS RESPONSIBLE FOR PCA, PRODUCES AN
INCREASE IN THE ELECTRON CONCENTRATION IN THE IONOSPHERE WITHOUT A
SUBSTANTIAL CHANGE IN THE GEOMAGNETIC FIELD AND IONOSPHERIC HEATING.
THESE STREAMS POSSIBLY CONSIST OF LOW ENERGY PROTONS AND ELECTRONS.
FACILITY: INSTITUTE OF TERRESTRIAL MAGNETISM, IONOSPHERE AND RADIO
WAVE PROPAGATION.

UNCLASSIFIED

PROCESSING DATE--23OCT70

UNCLASSIFIED

1/2 025

TITLE--IONOSPHERIC DISTURBANCES -U-

AUTHOR-(02)-BENKOVA, N.P., ZEVAKINA, R.A.

COUNTRY OF INFO--USSR

SOURCE--IN: IONOSPHERIC STUDIES. NUMBER 19 (IONOSFERNYE ISSLEDOVANIIA.
NUMBER 19). (A70-32076 15-13), MOSCOW, IZDATEL'STVO NAUKA, 1970, P.

DATE PUBLISHED-------70

SUBJECT AREAS--ATMOSPHERIC SCIENCES

TOPIC TAGS--IONOSPHERIC DISTURBANCE, F LAYER, ELECTRON DENSITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED STEP NO--UR/0000/70/000/000/0041/0052

PROXY REEL/FRAME--2000/1077

CIRC ACCESSION NO--AT0124734

UNCLASSIFIED

PROCESSING DATE--23OCT70

UNCLASSIFIED

2/2 025

CIRC ACCESSION NO--AT0124734

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BRIEF REVIEW OF THE RESULTS OF PUBLISHED STUDIED CONCERNING THE OCCURRENCE OF IONOSPHERIC DISTURBANCES. THE PLANETARY DISTRIBUTION OF NEGATIVE AND POSITIVE DISTURBANCES IN THE F REGION IS DISCUSSED. VERTICAL VARIATIONS IN THE ELECTRON CONCENTRATION DURING DISTURBANCES ARE ANALYZED ON THE BASIS OF SATELLITE AND GROUND DATA. CURRENT HYPOTHESES CONCERNING THE MECHANISM OF ELECTRON CONCENTRATION DECREASES DURING IONOSPHERIC DISTRUBANCES ARE APPRAISED.

UNCLASSIFIED

Acc. Nr.: AP0042377 Ref. Code: UR0263

JPRS 50162

Ionospheric Effect of Low-Energy Solar Plasma

(Abstract: "Ionospheric Effect of Low-Energy Solar Plasma Ejected During Proton Flares," by Ye. Ye. Goncharova, R. A. Zevakina, Ye. V. Lavrova and L. A. Yudovich, Institute of Terrestrial Magnetism, Ionosphere and Radio Wave Propagation; Moscow, Geomagnetizm i Aeronomiya, Vol X, No 1, 1970, pp 67-72)

A comparison was made of ionospheric disturbances in the F region caused by low-energy solar plasma from proton and nonproton flares. Three ionospheric-magnetic disturbances were considered: 7 July, 28 August and 2 September 1966, associated with proton flares, and one associated with a large nonproton flare, 16 September 1966. (Information on these flares and magnetic-ionospheric disturbances are given in a table. Low-energy solar plasma causes the most substantial changes in the F region and therefore a study was made of the change in critical frequencies and heights (h_p and h') of the F region for a number of ionospheric stations and the parameters of N(h) profiles for Moscow. The disturbances following proton flares began after 22-26 hours and 57 hours after the nonproton flare. This lag corresponds to velecities of the corpuscular stream of 1,700-2,000 km/sec and 700 km/sec respectively. The considered disturbances differ from

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Reel/Frame

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AP0042377

one another only in activity. During disturbances associated with proton flares there are the same changes in the F region as during other disturbances. This indicates that the low-energy solar plasma ejected during proton flares is not significantly different from the plasma of other corpuscular streams except that it is propagated at a greater velocity and possibly has a stronger magnetic field because it causes disturbances of greater activity.

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JPRS 59208
6.73

4

X-13. CONCENTRATION PROFILES IN AUTOEPITAXIAL LAYERS OF SILICON

[Article by V. A. Tolomasov, T. N. Sergiyevskaya, L. N. Abrosimova, T. A. Zeveke, Gor'kiy; Novosibirsk, III Simpozium po Protsessam Rosta i Sinteza Poluprovodnikovykh Kristallov i Plenok, Russian, 12-17 June 1972, p 162]

1. The volt-capacity method and the method of interstitial etching were used to study the concentration distribution of the charge carriers in autoepitaxial layers of silicon of p and n-type conductivity grown by pyrolysis of hydrides and by sublimation in a vacuum on substrates alloyed with B, P and Sb to a concentration of ~ 10^{19} cm^{-3}.

2. The width of the concentration p-p^+ and n-n^+ junctions obtained at temperatures of 700-1000°C in a vacuum and 1100°C by pyrolysis of hydrides does not exceed 0.2 microns and can be caused by diffusion of the admixture from the substrate.

3. On the concentration curves from autoepitaxial layers of silicon grown at 1000-1100°C on substrates alloyed with phosphorus, tails up to one micron long are observed which are unexplainable by phosphorus diffusion from the substrate.

4. The nature of the observed profiles can be explained by the peculiarities of the hybrid and vacuum technology of obtaining autoepitaxial silicon layers.

ZEVEKE, T.A.

JPRS 59208

6-73

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XII-8. STUDY OF THE AUTOEPITAXIAL LAYERS OF GERMANIUM OBTAINED FROM HYDRIDES

[Article by T. A. Zeveke, V. A. Tolomasov, O. A. Kuznetsov, L. N. Kornev, R. A. Rubtsov, Gor'kiy; Novosibirsk, III Simpozium po Protsessam Rosta i Sinteza Poluprovodnikovykh Kristallov i Plenok, Russian, 12-17 June 1972, p 171]

1. Layers of germanium were grown by the hydride method in a quartz reactor with high frequency heating and in a metal reactor with direct filament heating on strongly alloyed germanium substrates.

2. The alloyed layers of germanium were grown from a mixture of hydrides (germanium with diborane or phosphine).

3. The morphology, the structure and the electrical parameters of the germanium layers were investigated as functions of the crystallization conditions: the growth temperature, the hydride concentration, the linear flow rate, and the state of the substrate surface.

ZEVEKE, T.A.

1/2 028 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--MAGNETIC HYPERFINE AND QUADRUPOLE INTERACTIONS OF F-CENTRES IN NACL AS MEASURED BY ENDOR -U-

AUTHOR-(05)-DEIGEN, M.F., ZEVIN, V.YA., ISHCHENKO, S.S., BARAN, N.P., RUBAN, M.A.

COUNTRY OF INFO--USSR

SOURCE--PHYSICA STATUS SOLIDI, 1970, VOL 37, NR 1, PP 237-246

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--F CENTER, HYPERFINE STRUCTURE, QUADRUPOLE MOMENT, SODIUM CHLORIDE, NUCLEAR MAGNETIC RESONANCE, ELECTRON RESONANCE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1989/1075 STEP NO--GE/0030/70/037/001/0237/0246

CIRC ACCESSION NO--AP0107584

UNCLASSIFIED

2/2 028

CIRC ACCESSION NO--AP0107584 UNCLASSIFIED PROCESSING DATE--23OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE HYPERFINE AND QUADRUPOLE INTERACTIONS OF F-CENTRES IN NACL WERE INVESTIGATED BY THE ENDOR METHOD. THE CONSTANTS OF HYPERFINE INTERACTIONS WITH NUCLEI OF COORDINATION SHELLS I TO X SURROUNDING THE VACANCY HAVE BEEN DETERMINED. THE QUADRUPOLE INTERACTION WITH NUCLEI OF SHELLS II, IV, VI, AND VIII HAS BEEN RECORDED AND MEASURED. GENERAL EXPRESSIONS FOR ENDOR FREQUENCIES ARE GIVEN IN SINGLE PARTICLE APPROXIMATION, ALLOWANCE BEING MADE FOR THE DEVIATION OF THE NUCLEAR SPIN QUANTIZATION AXIS FROM THE DIRECTION OF THE CONSTANT MAGNETIC FIELD II SUBO AND FOR CORRECTIONS DUE TO SECOND ORDER PERTURBATION THEORY. THE ANGULAR DEPENDENCE OF ENDOR SPECTRA HAS BEEN INVESTIGATED IN DETAIL AND FULLY EXPLAINED ON THE BASIS OF THEORETICAL FORMULAE. THE CONSTANTS WERE DETERMINED AT T EQUALS 20, 77, AND 300DEGREESK. FACILITY: INSTITUTE FOR SEMICONDUCTORS, ACADEMY OF SCIENCES, UKRAINIAN SSR. FACILITY: KIEV POLYTECHNICAL INSTITUTE.

UNCLASSIFIED

USSR

ZEVINA, G. B.

Moscow, Obrastaniya v Moryakh SSSR (Growth Accumulation in the Seas of the USSR), Izdatel'stvo Moskovskogo Universiteta, 1972, 214 pp

Translation:

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ZEVINA, G. B., Obrastaniya v Moryakh SSSR, Izdatel'stvo Moskovskogo Unversiteta, 1972, 214 pp

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USSR

ZEVINA, G. B., Obrasteniya v Moryakh SSSR, Izdatel'stvo Moskovskogo Universiteta, 1972, 214 pp

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USSR

ZEVINA, G. B., Obrastaniya v Moryakh SSSR, Izdatel'stvo Moskovskogo Unversiteta, 1972, 214 pp

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USSR

UDC 546.882+620.172.24

AMONENKO, V. M., AZHAZHA, V. M., ZEYDLITS, M. P., and SHEVCHENKO, S. V., Physical-Mechanical Institute, Academy of Sciences Ukrainian SSR

"Effect of Small Additions of Oxygen and Nitrogen on the Nature of the Mechanical Properties-Temperature Relationship in Niobium"

Kiev, Problemy Prochnosti, No 6, 1973, pp 54-56

Abstract: The effect of oxygen and nitrogen impurities on the nature of the temperature and strength-ductility properties of niobium was studied. Niobium of 99.8% purity was used which contained metallic impurities of 0.09% Ta and $5 \cdot 10^{-3}$% W and Fe, and interstitial impurities of $2 \cdot 10^{-3}$% H_2, $5 \cdot 10^{-3}$% O_2 and $2.6 \cdot 10^{-3}$% N_2. The mechanical properties of niobium were studied in the 20-900 C interval where it was shown that at a strain rate of $1.6 \cdot 10^{-3}$ sec, at 300, 400 and 550 C, maximum strength properties and minimum ductility are observed. Height of the maximums at 300 and 550 C depends on the concentration of oxygen and nitrogen. The smooth change in the mechanical properties of niobium with temperature is associated with the deformation dynamics of aging. 3 figures, 1 table, 9 bibliographic references.

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PROCESSING DATE--20NOV70

UNCLASSIFIED

1/2 043

TITLE--INFLUENCE OF THE ZIRCONIUM ADDITIONS ON THE RELAXATION SPECTRUM OF
NICKEL -U-

AUTHOR-(04)-AZHAZHA, V.M., BONDARENKO, N.P., ZEYDLITS, M.P., SHAPOVAL,
B.I.

Z

COUNTRY OF INFO--USSR

SOURCE--FIZIKA METALLOV I METALLOVEDENIE, VOL. 29, FEB. 1970, P. 324-328

DATE PUBLISHED-----FEB70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--ZIRCONIUM CONTAINING ALLOY, NICKEL ALLOY, METAL INTERNAL
FRICTION, HYDRIDE, METAL CREEP, SPECTRUM, VIBRATION DAMPING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1995/0894

STEP NO--UR/0126/70/029/000/0324/0328

CIRC ACCESSION NO--AP0116404

UNCLASSIFIED

2/2 043 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0116404

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STUDY OF THE EFFECT OF ZIRCONIUM ADDITIONS (UP TO 0.5PERCENT) ON THE BEHAVIOR OF INTERNAL FRICTION IN NICKEL SUBJECTED TO CREEP. IT IS FOUND THAT ZIRCONIUM CONTENTS OF 0.1 AND 0.3PERCENT INCREASE THE MAXIMA (ON THE RELAXATION SPECTRUM CURVE) THAT ARE DUE TO MAGNETOMECHANICAL DAMPING, GRAIN BOUNDARIES, AND BLOCK STRUCTURE, RESPECTIVELY. ZIRCONIUM CONTENT OF 0.5PERCENT DECREASES THESE MAXIMA. IT IS SUGGESTED THAT 0.3PERCENT ZR CORRESPONDS TO THE SOLUBILITY LIMIT OF ZR IN NI. THE PEAK DETECTED ON THE CURVE OF INTERNAL FRICTION IS SUGGESTED TO BE DUE TO THE PRECIPITATION OF ZIRCONIUM HYDRIDE. FACILITY: AKADEMIIA NAUK UKRAINSKOI SSR. FACILITY: FIZIKO TEKHNICHESKII INSTITUT, KHARKOV, UKRAINIAN SSR.

UNCLASSIFIED

USSR

UDC 533.916

BEREZIN, A. K., FAYNBERG, Ya. B., SHAPIRO, V. D., BEREZINA, G. P., ZEYDLITS, V. P.

"Investigating Low-Frequency Instabilities in a Plasma-Beam Discharge by Correlation Analysis"

Kiev, Fizika plazmy i problemy upravlyayemogo termoyadernogo sinteza, 1971, Naukova dumka, pp 129-135

Abstract: A method is described for determining the degree of stochasticity of the oscillations excited in a plasma-beam discharge. The method is based on measurements of the oscillation space-time correlation functions, the latter having the form $R(\underline{l},\tau) = \overline{E_z(z,t)E_z(z+\underline{l},t+\tau)}$, where E_z is the intensity of the high-frequency electric field and the horizontal line above the expression indicates averaging over z and t. The authors also describe experiments they performed to determine the degree of

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ZIN, A. K. et al, Fizika plasmy i problemy upravlyayemogo moyadernogo sinteza, 1971, Naukova dumka, pp 129-133

tochasticity of the excited oscillations by investigating the shape of the oscillations with movable antenna loops along the beam close to the glass chamber containing the plasma and oriented to the H_z component of the field. The autocorrelation functions, frequency spectra, and wave number spectra were obtained for the envelope and the low-frequency oscillations excited in the plasma beam discharge. A block diagram of the experimental apparatus is given.

Magnetohydrodynamics

USSR

BEREZINA, G. P., BEREZIN, A. K., and ZEYDLITS, V. P., Physico-Technical Institute of the Academy of Sciences Ukrainian SSR

"Experimental Investigation of the Stochastic Acceleration of Ions in an Intense Plasma-Beam Discharge"

Moscow, Pis'ma v Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol 14, No 2, 20 Jul 71, pp 77-80

Abstract: Two modes of excitation of low-frequency oscillations can be distinguished in a pulsed plasma-beam discharge. The first mode at relatively low pressures is characterized by an excitation of ion-sonic oscillations which after 30-40 microseconds convert into oscillations which belong to the second mode. Included in this mode also are the oscillations generated during the entire duration of the current pulse at a higher gas pressure in the system. This article is concerned with the results of investigating the stochastic acceleration of ions during the excitation of low-frequency oscillations in the second mode . The authors describes the experiment and results and give two figures to support and illustrate their position. Figure 1 shows the function of mutual correlation of oscillations excited by azimuth; and Figure 2 shows one of the oscillations excited in the second mode ,

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USSR

BEREZINA, G. P., et al., Pis'ma v Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol 14, No 2, 20 Jul 71, pp 77-80

the frequency spectrum, the spectral density of the energy of these oscillations, the time variation in the phase of the investigated oscillations, and the energy spectrum of the ions generated by exciting low-frequency oscillations under the conditions of the second mode . The authors discuss the study of low-frequency oscillations and mechanisms for the transport of energy from the electron beam to theplasma ions in the second mode of the intense plasma-beam discharge. The article contains 2 figures and 4 bibliographic entries.

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1/2 013 UNCLASSIFIED PROCESSING DATE--09OCT70

TITLE--STRUCTURE OF AROMATIC AND HETEROCYCLIC FORMAZANS. I. STRUCTURE AND ABSORPTION SPECTRA -U-

AUTHOR-(05)-BEDNYAGINA, N.P., LIPUNOVA, G.N., NOVIKOVA, A.P., ZEYF, A.P., SHCHEGOLEVA, L.N.

COUNTRY OF INFO--USSR

SOURCE--ZH. ORG. KHIM. 1970, 6(3) 619-23

DATE PUBLISHED--------70

2

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--UV SPECTRUM, MOLECULAR STRUCTURE, CYCLIC GROUP, THIAZOLE, BENZIMIDAZOLE, PYRIDINE, ABSORPTION SPECTRUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/1582 STEP NO--UR/0366/70/006/003/0619/0623

CIRC ACCESSION NO--AP0112576

UNCLASSIFIED

2/2 013 UNCLASSIFIED

CIRC ACCESSION NO--AP0112576 PROCESSING DATE--09OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. UV SPECTRA OF RNHN:CR PRIME1 N:NR PRIME2 WERE RECORDED AND DISCUSSED (R, R PRIME1, R PRIME2 GIVEN): PH, H, PH; PH, ME, PH; P-O SUB2 NC SUB6 H SUB4, ME, P-O SUB2 NC SUB6 H SUB4; PH, PH, PH; PH, PH, P-ME SUB2 NC SUB6 H SUB4; PH, PH, P-O SUB2 NC SUB6 H SUB4; PH, P-O SUB2 NC SUB6 H SUB4, PH; PH, P-O SUB2 NC SUB6 H SUB4, P-O SUB2 NC SUB6 H SUB4; P-O SUB2 NC SUB6 H SUB4, PH, P-O SUB2 NC SUB6 H SUB4; 1,BENZYL,2,BENZIMIDAZOLINYL, ME, PH; 2, BENZOTHIAZOLYA, ME, PH; 2,BENZOXAZOLYL, ME, PH; 1,BENZYL,2, BENZIMIDAZOLYL, PH, PH; 2,BENZOTHIAZOLYL, PH, PH; 2,BENZOXAZOLYL, PH, PH; 4,(2,PYRIDYL),1,2,4,TRIAZOLYL, PH, PH; AND 1, PHENYLTETRAZOLINYL, PH, PH.

UNCLASSIFIED

USSR

ZEYGARNIK, B. V.

[redacted]

Lichnost' i patologiya deyatel'nosti (Presonality and Pathology of Activity), Moscow, Izd-vo Moskovskogo Universiteta

Translation: Annotation: The subject of this book is the urgent problem of psychology of the personality which has been little studied in experimental psychology. It begins with a historical survey of the development of this problem in Soviet and foreign psychopathology. The significance of psychopathological studies of personality disintegration for theoretical aspects of general psychology and psychiatry, both for recognition of the nature of psychological diseases themselves and for analysis of the structure of normal psychological activity is demonstrated. A large part of the book is devoted to the role of psychological research in solving practical problems of clinical psychiatry (recovery of fitness for work, diagnosis of psychological diseases).

The main content of the book is a description of the forms of deterioration of the motivation sphere and analysis of their principles. The role of the motivation factor in the structure of variable cognitive processes is demonstrated. A great deal of attention is given to the characteristics of various

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USSR

ZEYGARNIK, B. V., Lichnost' i patologiya deyatel'nosti, Moscow, Izd-vo
Moskovskogo Universiteta, 1971, 100 pp

forms of disturbances of work capacity occurring as a result of changes in the motive sphere.

The book contains descriptions of the most frequently used procedures of experimental psychology for studying the pathology of the personality and their structural principles.

The book is designed for psychologists, neuropathologists and psychiatrists.

Translation: Excerpt of Conclusions: This book deals only with a narrow class of problems the solution of which is connected with study of the structure of pathologically changed activity. We have not tried to present an exhaustive analysis of the various forms of pathology of activity, but have limited ourselves only to the analysis of which role is played by the changes of the motivation sphere in the structure of personality disturbances.

This restriction is connected not only with the fact that this area has been studied little experimentally, but partially with the fact that the theory

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USSR

ZEYGARNIK, B. V., Lichnost' i patologiya deyatel'nosti, Moscow, Izd-vo Moskovskogo Universiteta, 1971, 100 pp

of the personality itself has been insufficiently developed in our general psychology. There is little specific research in this area, and the methods of studying the personality have been insufficiently developed. This situation often leads to the fact that research methods are used in psychiatric practice which, in our opinion, are based on unacceptable ideas.

In addition, clinical psychiatry demonstrates that many of its practical problems (like the problem of recovery of work capacity, the problem of recovering disturbed functions, the problem of certification) cannot be solved without considering the personality of the sick man and, consequently, without using the concepts of scientific psychology. In this connection, it is desirable to remember the words of the well-known physicist Boltzmann, that the most practical is good theory.

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ZEYGARNIK, B. V., Lichnost' i patologiya deyatel'nosti, Moscow, Izd-vo Moskovskogo Universiteta, 1971, 100 pp

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CSO: 1840-W

- END -

USSR UDC 612.815.014.46+615.787

MIKHEL'SON, M. YA., and ZEYMAL', E. V.

Atsetilkholin. O Meolekulyarnom Mehanizime Deystviya (Acetylcholine: Its Molecular Mechanism of Action), Leningrad, "Nauka", 1970, 279 pp

Translation: Discovery of the chemical transmission of nerve impulses is justly called one of the outstanding achievements of modern science. However, only in the past 10-15 years has information accumulated on the molecular mechanism of mediator action of the most closely studied mediator -- acetylcholine. Comparison of the association between the chemical structure of compounds and their action on cholinergic structure yields information on the structure of cholinoreceptors and cholinesterases and on changes of this structure in the course of evolution. Data presented in this book afford a deeper grasp of the physiological action of chemical mediators of nerve impulses and open up an avenue for deliberate and not empirical, intervention into the functioning of cholinergic synapses using specially synthesized compounds and other biologically active materials with desired properties.

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USSR

MIKHEL'SON, M. YA., Acetycholine: Its Molecular Mechanism of Action, Leningrad, "Nauka", 1970, 279 pp

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Chapter II. Cholinoreceptors and Cholinesterases and Methods of Studying Their Chemical Structure 54

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USSR

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ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN EXPERIMENTAL INVESTIGATION OF HEAT EMISSION DURING BOILING OF SODIUM IN A VERTICAL TUBE 3.54 MM IN DIAMETER AND 745 MM IN LENGTH WAS CARRIED OUT. THE INVESTIGATED RANGE OF HEAT FLOWS WAS (200 DIVIDED BY 705) TIMES 10 PRIME3 W-M PRIME2, WEIGHT VAPOR CONTENT UP TO 60PERCENT, VAPORIZATION RATE UP TO 460 M-SEC, AND PRESSURE BEYOND WORKING RANGE 0.75-0.8 BAR. EXPERIMENTS WERE PERFORMED WITH FEEDING INTO THE INLET OF THE WORKING SECTION OF A SMALL AMOUNT OF INERT GAS, WHICH ENSURED THE FORMATION OF ANNULAR FLOW REGIME.

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ON SOME DEBATABLE PROBLEMS OF EXPERIMENTAL PATHOPSYCHOLOGY

Zeygarnik, B. V.; Rubinshteyn, S. Ya.

Some discutable problems of the definition of the subject of abnormal psychology and the delimiting of this subject from the subject of psychiatry are presented in the paper. The importance of the theory and methods of psychology for psychiatric clinic is shown. The question is also discussed of some fundamental differences of methodology of the construction of experiments accepted in Soviet pathopsychology for practical problems of psychiatric clinic. The necessity of overcoming the gap of concepts in Soviet psychology and psychiatry (especially in the analysis of the development and the disintegration of personality) is emphasized.

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ZEYLARNYK, Yu. A., LYTVYNOV, V. D.

"Inversion of Temperature During Boiling of Alkali Metals in Pipes Under Circular Flow Mode Conditions"

Teplofizika Vysokikh Temperatur, Vol 9, No 6, 1971, p. 1242-1247.

Abstract: An inversion temperature profile was observed in experiments on the study of heat transfer during boiling of alkali metals in pipes. It is concluded on the basis of the analysis performed that the most probable reason for existance of an inversion temperature profile is the lack of equilibrium between drops of liquid metal in the core of the stream and the temperature of the vapor. It is shown that significant superheating of drops is possible only with values of heat transfer coefficient from drop to vapor of about 10^4 kcal/m^2·hr, °C.

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